CLAIMS

1. A remote control (1) for a heavy construction machine of the type comprising:

- a body (2) which comprises at least one cavity (5, 63) running between an open end (6, 65) opening onto at least a top face (7) of the body (2) and a bottom (8, 66) at the opposite end to the open end,
- at least one first pushrod (3, 62) which runs between a head end (12, 67) and a foot end (13, 69), which is mounted to slide back and forth in said at least one cavity (5, 63) of the body (2) in an axial direction between a rest position and a depressed position, and which is intended to control at least a first receiver external to the remote control, and
- a handle (4) which comprises a transverse skirt (10) and which is mounted to pivot with respect to the body (2) opposite the top face (7) of said body (2) to control the back and forth movement of said first pushrod (3, 62), the skirt (10) simply resting against the head end (12, 67) of said pushrod (3, 62), and the axis (Y-Y) of the handle (4) making a variable acute angle with the axis (X-X) of the pushrod (3, 62),

characterized in that at least the head end (12, 67) of the first pushrod (3, 62) can also move toward a protruding position which is on the opposite side of said rest position to the depressed position,

in that first elastic return means (15, 74) urge the head end (12, 67) of the pushrod (3, 62) toward its protruding position so that at least the head end (12, 67) of the first pushrod (3, 62) has an autonomous upward movement, and

in that the remote control (1) further comprises

detection means (17) for detecting the position occupied by the head end of the first pushrod (3, 62) between its protruding and depressed positions.

2. The remote control (1) as claimed in claim 1, characterized in that the detection means (17) are of the type free of mechanical contact.

3. The remote control (1) as claimed in claim 2, characterized in that the detection means (17) comprise a magnet (40) which moves as one with the head end of the pushrod (3, 62).

4. The remote control (1) as claimed in any one of claims 1 to 3, characterized in that the cavity (5) is stepped and comprises a first shoulder (20) substantially transverse to the movement of the first pushrod (3), and in that said pushrod (3) comprises an intermediate portion (22) which moves as one with the head end (12) and the foot end (13) of the pushrod (3) and is located between its head end (12) and its foot end (13) and delimits a top stop (23) and a bottom stop (24), the top stop (23) coming to rest against the first shoulder (20) when the pushrod (3) is in the protruding position and the bottom stop (24) coming to rest against the bottom (8) of the cavity (5) when said pushrod (3) is in the depressed position.

5. The remote control (1) as claimed in claim 4, characterized in that the first return means (15) are housed in the cavity (5).

6. The remote control (1) as claimed in one of claims 4 and 5, characterized in that the first return means (15) comprise a collar (26) borne by the intermediate portion (22) near the top stop (23) and a first compression spring (27) inserted

between the collar (26) and the bottom (8) of the cavity (5).

7. The remote control (1) as claimed in one of claims 1 to 3, characterized in that the cavity (63) comprises a shoulder (64) substantially transverse to the movement of the first pushrod (62), and in that said pushrod (62) comprises a head end (67) and a foot end (69) that move together as one and are able to move translationally along the axis (X-X) of the pushrod (62) with respect to an intermediate portion (70) which is situated between the head end (67) and the foot end (69) and delimits a top stop (75) and a bottom stop (76), the top stop (75) coming to rest against the shoulder (64) when the head end (67) of the pushrod (62) is between its rest position and its protruding position and the bottom stop (76) coming to rest against the bottom (66) of the cavity (63) when said pushrod (62) is in the depressed position.

8. The remote control (1) as claimed in claim 7, characterized in that the first elastic return means (74) are housed between the head end (67) of the pushrod and the intermediate portion (70) of the pushrod (62).

9. The remote control (1) as claimed in one of claims 7 and 8, characterized in that the first elastic return means comprise a first compression spring (74) inserted between the head end (67) of the pushrod and the intermediate portion (70) of the pushrod (62).

10. The remote control (1) as claimed in one of claims 1 to 9, characterized in that second elastic return means (30, 77) are housed in the cavity (5, 63) to return the first pushrod (3, 62) from its

depressed position to its rest position.

11. The remote control (1) as claimed in claim 10, characterized in that the second return means (30) comprise a ring (31) concentric with the first pushrod (3), a second compression spring (32) inserted between the ring (31) and the bottom (8) of the cavity (3), and a peripheral relief (33) moving as one with the first pushrod (3) and intended to come to rest against the ring (31), the cavity (5) further comprising a second shoulder (35) against which the ring (31) abuts when the first pushrod (3) is in the rest position.

12. The remote control (1) as claimed in claim 10, characterized in that the second return means (77) comprise a collar (78) borne by the intermediate portion (70) near the top stop (75) and a second compression spring (79) inserted between the collar (78) and the bottom (66) of the cavity (62).

13. The remote control (1) as claimed in any one of claims 1 to 12, characterized in that a second pushrod (50, 80, 87) is mounted in a second cavity (51, 82) of the body (2), the second pushrod (50, 80, 87) being elastically urged by a third compression spring (60, 86) in such a way that the force that has to be exerted on the handle (4) in order to depress one of the first (3, 62) and second (50, 80, 87) pushrods is more or less constant.

14. The remote control (1) as claimed in claim 13, characterized in that the second cavity (82) is symmetric with the first cavity with respect to the axis of the handle (4) in the rest position.

15. The remote control (1) as claimed in claims 13 and 14, characterized in that at least the head end (88) of the second pushrod (87) is able to move toward a protruding position which is on the opposite side of said rest position to the depressed position and in that elastic return means (90) urge the head end (88) of the pushrod (87) toward its protruding position so that at least the head end (88) of the second pushrod (87) has an autonomous upward movement.

16. The remote control (1) as claimed in any one of claims 1 to 15, characterized in that the foot end (13, 69) of the first pushrod (3, 62) is mounted such that it passes through the bottom (8, 66) of the cavity (5, 63) and internally bears the magnet (40).

17. The remote control (1) as claimed in claim 16, characterized in that a Hall-effect sensor (41) is mounted in the body (2) of the remote control (1) facing the movement of the magnet (40) between the depressed and protruding positions of the first pushrod (3, 62).

18. The remote control (1) as claimed in claims 13 to 17, characterized in that the second pushrod (50, 80, 87) is located on the opposite side of the axis of the handle (4) to the first pushrod (3, 62).

19. The remote control (1) as claimed in claims 17 and 18, characterized in that the Hall-effect sensor (41) is potted in resin so that it is situated in a sealed location.